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ABSTRACT

In five sections, this paper explores dimensions of early childhood education: schooling generally construed as nonparental instruction in knowledge, values, and skills. Section 1 looks at some of the factors which have contributed to the rapid growth of early childhood education in modern times. Section 2 briefly highlights the contributions of some of the major figures in contemporary early childhood education, including Heinrich Pestalozzi, Frederich Wilhelm Froebel, Maria Montessori, John Dewey, Sigmund Freud, Erik H. Erikson, and Jean Piaget. Section 3 reviews the basic parameters of early childhood education, dealing in turn with the learner, the learning process, and the nature of knowledge. Section 4 briefly delineates the aims of early childhood education. Section 5 discusses pedagogical issues in early childhood education. Section 6 highlights some of the major research issues raised by the rapid growth of early childhood education in the United States today. Section 7 considers public policy issues. Concluding remarks emphasize that to further build on the increasing acceptance of developmentally appropriate programs, policies should be passed and implemented that promote practices enabling all children to leave the early grades feeling good about themselves, learning, and schooling. (RH)

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Early Childhood Education

David Elkind

The theory and practice of early childhood education, like so many other disciplines, has a long past and a short history. When education is taken in its broad sense, including everything a child is taught and learns during the first years of life, then early childhood education has existed for as long as humankind have been rearing children. However, in the narrow sense of education, nonparental instruction in knowledge, values and skills, the education of young children is a relatively modern innovation.

In this paper we will be concerned only with early childhood education in the narrow sense. In the first section we will look at some of the factors which have contributed to the rapid growth of early childhood education in modern times. In the second section we will briefly highlight the contributions of some of the major figures in early childhood education as we know it today. Then, in the third section, we will review the basic parameters of early childhood education. In the fourth section, we will highlight some of the major research issues raised by the rapid growth of early childhood education in the United States today. A final section will consider public policy issues associated with early education in this country.

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THE GROWTH OF EARLY CHILDHOOD EDUCATION

The growth of early childhood education in the modern era can be linked to a number of different historical events. Darwin's theory of evolution, for example, transformed our ideas about the insane, the retarded and about children. The idea that humankind evolved, and were not created, led to a more humane view of people who deviated from the norm. Just as insanity and retardation came to be seen as natural phenomena--rather than as the work of the devil--children's behavior came to be viewed as reflecting their immaturity rather than their original sin. For each of these groups, humanitarian practices progressively replaced restriction and punishment.

The industrial revolution also contributed to the growth of early childhood education. The introduction of the factory system and the movement of families into the cities and into the labor force changed the structure of families. The once self sufficient farm family became dependent upon others for food clothing and shelter. To pay for these necessities, mothers often had to work in the factories along with the men. This brought about the demand out of home care for infants and young children. In England and on the continent, the first early childhood programs were designed to care for the children of working mothers.

A more recent series of events that have also contributed to the growth of early childhood education was the establishment of socialist societies in countries such as China, Russia and Israel. In these countries, the society, rather than the family, was to be the prime identity and allegiance of the individual. Accordingly, massive early childhood care programs were instituted in part to enable women to join the work force, in part to weaken the strength of family bonds. In many ways, these state supported programs were massive experiments in early childhood education. Unfortunately these were uncontrolled experiments and we have no good way of assessing their effects.

In this country, a succession of social changes contributed to the growth of early childhood education as we know it today. The first of these changes was the movement of farm families to the cities and factory work. As in Europe, the introduction of factory labor took women out of the home and brought about the need for out-of-home care facilities for children. A second change was the massive wave of immigration, from Europe to this country, around the turn of the century. In the United States, initially, early childhood programs were introduced to care for the children of poor, two parent working families who had immigrated to the cities either from farms or from abroad.

It must be said that many of the early programs for the children of two parent working families had a social as well as an educational and child welfare intent. It was feared by many in

the established society, that the children of two parent working families, if left to their own devices, would become delinquent and thus pose a threat to social stability. Many day schools, around the country, such as the "Home for Little Wanderers" in Boston, were founded and funded by families of wealth, in part at least, as a preventive measure against later delinquency and crime.(1)

Although programs for young children began as a service for two parent working families, after World War I, many of these programs were institutionalized and redirected to care for the children of single working mothers or of troubled families-they became agencies of social welfare. Day Care programs thus came to be identified with poverty and with social pathology. As a consequence, Day Care Centers acquired a social stigma. Children who were in out-of-home programs for a full day were looked upon as unfortunate and underprivileged. The social stigma associated with Day Care is gradually being overcome, but some traces of that stigma may account, at least in part, for the continued resistance to early childhood education in some quarters.

Another contribution to the growth of early childhood education in this country was the nursery school movement. In contrast to the evolution of Day Care, the nursery school movement in America was directed towards children of middle income parents. Between the two world wars, the nursery school movement flour-

ished and training schools for nursery school teachers such as the Bank Street College of Education in New York, The Merrill Palmer School in Detroit and the Nursery Training School in Boston, prepared young people to work with young children in nursery school settings.

In contrast to the Day Care programs, the nursery school program was a half day affair, and often involved the parents in one or another form of "guided observation." The contemporary growth of early childhood education has its philosophical roots in the nursery school movement, not Day Care programs.

During WWII middle class women entered the work force to help with the War effort and to take the place of men who had joined the Services. A number of truly exceptional child care programs were created during the War to care for the children of mothers who had to work in the defense plants. The child care program set up at the Kaiser Steel Plants was one of the best of its kind and included care for children at night, on weekends and also for children who were ill. These programs brought about a melding of nursery school early childhood philosophy with the realities of full day care that has continued until the present day.

After WWII, unfortunately, these day care programs were dismantled as middle class women moved out of the work force to make way for returning service men. As automobiles became the preferred mode of transportation and as highways and suburbs were

built, the status of middle class women changed. They became symbols of "Leisure Class" status, symbols that their husbands earned enough so that they did not need to work (2). The Women's Movement of the 1960's was in part a reaction to the anomalous position of middle class women who were being given credit for what they weren't doing--eating chocolates while watching TV, playing Mah-Jong--and not being given credit for what they were doing--fifty hours of work at home not counting the hours spent in child care. Among other things, the Women's Movement liberated women from their hapless role as symbols of leisure class status.

In the 1960's women were encouraged to pursue higher education and to follow the career of their choice. The movement of middle class women into the work force, like the movement of low income mothers into factory toward the end of the last century, brought a fresh demand for early childhood education. It is the movement of more than fifty percent of middle class mothers into full or part time employment which has fueled the growth of early childhood education in the last quarter century. Since the nineteen sixties there has been a thousandfold increase in day care centers an increase from 60 to 90 percent of children attending kindergarten. In addition in many communities, the public schools now provide full day kindergartens and early education programs for four-year-olds. More than 2000 companies and corpo-

rations now provide early childhood programs for the children of their employees.

In 1964 the Congress passed the Head Start legislation and in 1965 some 500,000 preschool children were enrolled in Head Start programs. It was the first time the federal government had become directly involved in early childhood education. Currently the Congress is considering the passage of the first national child care legislation, the Action for Better Childcare (ABC) bill. Clearly as we move into the last decade of this century early childhood education has become part of the national educational scene and is no longer perceived as a luxury or necessity for parents but rather, a requirement for children.

MAJOR CONTRIBUTORS TO CONTEMPORARY EARLY CHILDHOOD EDUCATION

Many writers, both within and outside the discipline of pedagogy have contributed to the theory and practice of early childhood education. Among the most prominent of these are the contributors described below.

Heinrich Pestalozzi (1746-1826)

Pestalozzi was a Swiss educator who extended some of the ideas of the Enlightenment to early childhood education (3). The spirit of the enlightenment was to look to experience, rather than to authority, for true knowledge. Pestalozzi began several schools for children whom today we would call disadvantaged. None of these schools was very successful nor lasted very long. This was probably more a result of Pestalozzi's limitations as an

administrator than of the programs he initiated.

Pestalozzi was, nonetheless, a prolific writer and in his many books gave what is perhaps the first systematic approach to the education of infants and young children. In his most famous book, Gertrude Teaches Her Children, which takes the form of a series of letters to mothers, Pestalozzi described many exercises the mother could engage in with her child. These exercises were aimed at helping children develop their intellectual and physical abilities. Moreover, these exercises were revolutionary in the sense that they took account of child development and catered to it. Up until that time young children were taught what adults thought they ought to know, namely, the catechism.

Although he was personally not successful in maintaining a school run according to his own principles, Pestalozzi did influence many parents and other educators who also began to look at what children needed to learn rather than at what adults wanted them to know.

Frederich Wilhelm Froebel (1782-1852)

Froebel is generally regarded as the originator of early childhood education as a distinct field of pedagogy (4). Froebel believed that children could and should be taught outside the home as well as within it and that such education should be provided by trained teachers. He not only developed a curriculum for young children but also a training school to prepare teachers

to work with young children.

Perhaps Froebel is best known for his introduction of the Kindergarten, children's garden, where children could learn through activity. Froebel recognized the educational value of certain toys and advocated toys and play as the appropriate way of instructing young children. His kindergarten included blocks, pets and simple games. The toys which Froebel introduced for educational purposes, such as a ball, he termed "gifts." He believed that children could learn both simple ideas such as "roundness" from playing with the ball, but also begin to comprehend the shape of the earth and concept of unity also implicit in the sphere.

Maria Montessori (1870-1952)

The first woman in Italy to gain admittance to and graduate from medical school, Maria Montessori laid the foundations for early childhood education as we know it today (5). After graduating from medical school, Montessori worked with retarded children for whom she designed some innovative learning materials. She was then invited to set up an educational program for young children in a low income housing project. Using untrained teachers and modifications of the materials she had devised for retarded children, she created what is known today as Montessori education.

Like Pestalozzi and Froebel, Montessori began with observa-

tions of how children engage in learning on their own. From these observations she was able to both choose materials that were uniquely suited to the intellectual needs of young children, and to describe some general principles of early childhood education. For example, Montessori believed that young children should always be exposed to the object, property or quality before they were given the name for that object, property or quality. Put differently, she believed that sensory learning should precede symbolic learning.

Many of Montessori's innovations have become part of the conventional wisdom early childhood teaching practice. For example, the child sized chairs, tables, eating and cooking utensils which she introduced are now standard furnishings in all early childhood settings. Some of her other curriculum innovations such as the button board, sandpaper letters and square blocks of different sizes have been less widely disseminated. Montessori emphasized curriculum materials because she believed that if the environment was properly "prepared" then children would be able to spontaneously learn from it through their own self guided activity.

Unlike her curricular materials, Montessori's teacher training methods have not been widely used outside of the Montessori teacher training schools. Like Froebel, Montessori believed that early childhood teachers had to be specially trained and she worked out an elaborate training program of teacher preparation.

Today, Montessori oriented teacher training is one of the more rigorous early childhood teacher training programs in this country and abroad. Montessori teachers are particularly well schooled in the use of manipulative materials with young children.

John Dewey (1858-1952)

Although trained as a philosopher, John Dewey became America's first original educator. Like Pestalozzi, Froebel and Montessori, Dewey believed that childhood was a unique stage of life that should not be rushed. In addition he believed that education should be practical--his brand of educational philosophy has been called Functionalism--and should prepare children for the life they will experience outside of life. While Dewey was not opposed to classical education at some levels, he believed that children should also learn more practical skills (6).

In addition to his contributions to educational philosophy Dewey also introduced instructional innovations. Perhaps the most well known, is what has come to be called the Project method. Rather than teach subjects as separate and apart from one another, Dewey believed they could be taught in an integrated way if children were engaged in producing a product. In the process of building a boat, for example, young people would learn measurement and how to read blueprints, they would learn the vocabulary of boat building, would read about the history of the boat they

were constructing, and might read books about the sea. When engaged in such a project young people would learn knowledge and skills in many different subjects in an integrated, interesting and rewarding way.

Dewey's ideas and methods became a major movement in the United States that lasted until the mid nineteen fifties and was called "Progressive Education." It disappeared from the American educational scene for many different reasons not the least of which in distorted form it had become associated with "permissiveness." (7).

Sigmund Freud (1856-1939)

Sigmund Freud created a new theory of psychopathology, a method of investigating it and therapeutic procedures for treating mental illness. His writing continue to have a major impact in all facets of social science. His work has also had an important impact on early childhood education. Freud's discoveries of infant sexuality (8), the stages of psychosexual development and of the Oedipus Complex, have altered the way in which we think about young children. Although most of what Freud had to say about early childhood dealt with parent-child relationships, there were some implications for out of home care as well. This is particularly true with respect to children's play.

Whereas writers such as Froebel and Montessori saw play as a an all important mode of learning for young children, Freud saw play as comparable to a dream. Like a dream play has both a

manifest and a latent content. Children's play can reflect inner complexes and conflicts and also be a way of working them out. A child who has just returned from the doctor, for example, may play at being doctor as a way of relieving some of the anxiety aroused by that visit. The technique of play therapy has grown out of this recognition that children's play can have symbolic meaning. It is now generally recognized that the play of young children has both cognitive and affective value.

Erik Erikson (1902-)

Erik H. Erikson was trained as a child analyst but has departed significantly from analytic theory (9). In his writings, Erikson has focused upon the social dimensions of development and the evolution of such social orientations as trust and identity. Four of Erikson's eight stages of development occur in early childhood.

In Erikson's view we are born with a number of social potentials. How these potential are realized depends very much upon the sort of experiences to which we are exposed as well as to our own unique characteristics. Each potential exists as a kind of polarity and has a particular time when the balance between the two opposing tendencies will be determined. Although whatever balance is attained can be modified later, it is always more difficulty than during the "critical period" for those polarities.

To illustrate the relevance of the Eriksonian stages for early childhood education we can look at the stage of initiative vs. guilt which has it's critical time around the age of four and five. If the child is given the opportunity to explore the world, undertake projects on his or her own, the child will develop a sense of initiative that is stronger than the sense of guilt. In contrast, if the child is constantly told what to do, corrected if he or she makes mistakes, then the child will acquire a sense of guilt which is greater than his or her sense of initiative.

Erikson's theory, then, has rather direct implications for the practice of early education as well as for childrearing.

Jean Piaget (1896-1980)

Although he was trained as a philosopher and biologist, Jean Piaget's greatest contributions were to developmental psychology. Piaget elaborated a theory of intellectual development which has impacted many different disciplines including early childhood education. While Piaget himself wrote about education in general terms (10) his work has had a major impact upon the theory and practice of early childhood education.

From a theoretical point of view, Piaget's work has emphasized the importance of development, and of the limits which it sets upon learning. Learning cannot accelerate growth. Piaget's theoretical work has been a major factor in the current effort by early childhood educators to get schools to provide "developmentally appropriate" practice for young children. (11) In addition,

Piaget's work on the development of children's understanding of different conceptions, such as number, have led to major curriculum innovations (12).

MAJOR PARAMETERS OF EARLY CHILDHOOD EDUCATION

Every system of education presupposes a set of assumptions regarding the learner, the learning process, the knowledge to be required and the aims of education. Contemporary early childhood education in America can be described along these parameters. It must be said that this description represents the views of mainstream early childhood education and does not reflect the views of all the many varieties of early childhood education currently available.

The Learner

Young children are first and foremost growing individuals. From this point of view, all children are seen as having the basic learning abilities which they may, nonetheless, attain at different ages. For example, we expect that all children (with the exception perhaps of the extremely retarded) will eventually attain the mental abilities which Piaget (13) calls concrete operation that enable young children to reason in a syllogistic way and to follow rules. While most children acquire these operations at about the age of six or seven, bright children may acquire them at the age of four whereas the slow child may attain them at the age of eight or nine.

The view of children as endowed with developing abilities, has significant educational implications. What is important is to match the child's developing mental abilities with curriculum that is nicely suited to those abilities. Curricula have to be studied to determine their "developmental difficulty" --the level of mental ability required for their comprehension. For example, instruction in phonics requires children to have attained the concrete operations described earlier. This is true because children require these abilities to grasp that one and the same letter can represent different scunds and that the same sound can be represented by different letters. Teaching a child phonics before he or she can grasp that one and the same thing can be two things can be frustrating and demoralizing.

The Learning Process

From a developmental point of view, learning is always a creative activity. The child never simply copies information from the external world but always transforms it in significant ways. The Connecticut youngster who heard the Lord's Prayer as "Our Father Who art in New Haven, Harold be thy Name," is not the exception but the rule. In effect this means that we cannot really separate the learning process from the content to be learned. Every different content engages us in a unique way. There are no disembodied learning principles that operate entirely apart from the content to be learned. Learning is always

content oriented.

Here again this view of the learning process differs from the view of learning held by those who educate at the primary and secondary levels. At those levels there is a strong belief in the separation of learning and content. Currently, for example, there is a great deal of interest in teaching "thinking skills" (14) and "learning strategies" (15). Such efforts reflect the belief that the learning or thinking process can be taught and learned apart from specific contents..

The issue here is what has been called transfer of training. To be sure, the developmental approach recognizes that such transfer occurs. But those who wish to teach thinking or learning skills, assume that transfer is automatic and hence unconscious. A developmental approach, which argues for the necessity of content for the operation of learning and thinking, insists that transfer can only occur when the learner is consciously aware of content and is making the effort to generalize.

It perhaps needs to be said that this approach to inextricability of process and content is quite modern. It is in keeping with the "deconstruction" movements in science and literary criticism which look at the many levels of meaning in texts. Much of this began with the work of Jacques Lacan (16) and his rereading of Freud to demonstrate that even Freud was not fully aware of what he was saying. The content is embedded in the process and vice-versa.

The Nature of Knowledge

From an early childhood education perspective, knowledge is always a construction. That is to say, reality as we know it is never simply a copy of the external world, but rather is a construction or creation that bears something of ourselves and something of the external world and cannot be reduced to either one. To be sure, we all have the same sensory apparatus and there are constants in the external world, so our individual realities are never entirely egocentric. At the same time, however, we also never see the world exactly the same way as everyone else does.

To this individual difference dimension, we must add the developmental one. As the child matures so too do his or her mental abilities. As a consequence the child must construct and reconstruct reality in the process of growing up. The same holds true for our memory of past reality. Each time the child attains a new, higher, level of mental ability he or she reconstructs the past. Memory is thus never a simple recall of previously stored images but rather an active constructive process which transforms the information derived from earlier experience.(17)

This view of knowledge has important implications for education and particularly for educational assessment. A child, for example, who believes that a quantity changes in amount when it changes in appearance is not "wrong" in a psychometric sense. Rather she is expressing a way of viewing the world that is

appropriate to her level of development. Her view of the world is different than our own, not wrong. The view that knowledge is constructed carries with it the idea that there can be different conceptions of the same phenomena without their being a wrong and a right one.

The prevailing psychometric view in education, however, sees knowledge as independent of the learner and not as a construction. It is therefore possible to measure this knowledge by an external standard. History records that Columbus discovered America in 1492 not 1688. When knowledge is assessed against an external standard, it can be termed right or wrong depending upon whether or not it agrees with that standard. While certainly there is validity to the right wrong distinction, it should not dominate education. There must be room in the classroom for different but equally valid conceptions as well as right and wrong ones.

THE AIMS OF EDUCATION

The aims of early childhood education have been clearly enunciated by Jean Piaget."The principle goal of education is to create men who are capable of doing new things, not simply repeating what other generations have done--men who are creative, inventive and discoverers. The second goal of education is to form minds which can be critical, can verify, and not accept everything that is offered. The great danger today is of slo-

gans, collective opinions, ready made trends of thought. We have to be able to resist them individually, to criticize, to distinguish between what is proven and what is not. So we need pupils who are active, who learn early to find out by themselves, partly by their own spontaneous activity and partly through material we set up for them; who learn early to tell what is verifiable and what is simply the first idea to come to them. (18, p.5)

According to Piaget, the legitimate aim of early childhood education is to produce self motivated learners and critical thinkers. In contrast, writers who represent the current educational philosophy emphasize what specific knowledge and skills a young person should acquire to be educated or literate. For example, Bennett, (19), Bloom (20) and Hirsch (21) argue for this view of the aims of education. To put the difference between the developmental and psychometric philosophies more succinctly, the aim of developmental education is to generate child who want to know while the aim of psychometric education is to produce young people who know what we (adults) want.

To be sure the early childhood educator also sees it as desirable that the educated person have a repository of knowledge and skills. Children should know something of Shakespeare, of Newton, of Freud and so on. The difference is in the matter of priorities, of what comes first. Psychometric education puts the knowledge and skills first, and the learner second, developmental education put the kind of person we want to generate first and

what he or she knows, or is capable of doing, second. Early childhood education assumes that a motivated, excited learner will want to learn the things we want them to know.

PEDAGOGICAL ISSUES IN EARLY CHILDHOOD EDUCATION

There are many different issues currently being debated regarding the education of young children. Only a few of these can be dealt with here.

The Effect of Early Childhood Education on the Infant

Today close to 60 percent of mothers with children under the age of six have jobs. In addition, more than half of the mothers with infants of less than one year of age are employed. This means that a large percentage of infants and young children are being cared for by relatives within the home or by paid caregivers outside the home. What effect is being cared for by non-parental figures going to have upon this children? There has been a long standing debate on this issue. For example, in 1950 John Bowlby wrote:

"The absolute need of infants and toddlers for the continuous care of their mothers will be borne on all those who read this book... We must recognize that leaving any child under three years of age is a major operation only to be undertaken with good and sufficient reasons and when undertaken, to be planned with great care" (22, p. 16).

Yet many contemporary researchers do not agree. They find

that the critical issue is not whether the child is reared by the parent or by the caregiver as much as it is the quality of the care the child receives. When a child is cared for by an experienced, warm adult, who is caring for not more than three infants, and the environment is a safe, pleasant and interesting one, there is no evidence of lasting untoward effects. One investigator summarizes the effects of quality child care this way:

"The major effect of day care seems to be a speeding up some of the child's social and intellectual skills during the preschool period. Studies suggest that this occurs when day care offers children organized educational activities and the opportunity to interact with a variety of other children under the guidance of a caregiver who can focus on the children's needs and interests without the distraction of daily household tasks." (23, p.75)

The real issue for contemporary working parents is to find quality, affordable child care. With such care, there is no evidence of any immediate or lasting harm to young children. There is, however, one important caveat. It does appear that children in child care setting, particular large day-care setting are more subject to communicable diseases than children cared for at home or the home of the care giver.

Will Early Childhood Education Increase a Child's Intelligence or Give Him or Her an Academic Head Start?

One of the questions usually raised in relation to early childhood education is whether it will raise the child's IQ. This question is interesting because it is rarely, if ever, raised with respect to elementary or secondary education. If neither elementary nor secondary education is expected to raise a child's IQ, why should it be expected of early childhood education? And indeed there is no evidence that early education will raise a child's IQ on any permanent basis.

It is still possible, however, that early education can give children who have it an edge over those who haven't. Does this in fact occur? Certainly some high quality age appropriate programs for disadvantaged children seem to have demonstrated long term positive benefits (24).

But these results cannot be generalized to all programs and to all children. A simple analogy may help to make the dangers of such generalizations concrete. Assume a group of children who are badly undernourished and who are well below their age norms for height and weight. If these children are now placed on a full calorie, nutritionally well balanced diet, they will make quite noticeable progress in height and weight in a reasonably short time. If, however, you take a group of children who are already well nourished and at or above the norms for height and weight for their age group, a comparable regime will have little or no effect.

Does this mean that advantaged children receive no benefits

from early childhood education because it merely duplicates what they have at home? Not at all. The issue here is comparable to the one raised about home schooling. Yes parents can and do successfully school their children at home even through high school. Does this mean that school is unimportant? Not at all. It does mean that parents who have the time, energy and commitment to home school can do successfully. But parents who do not have the time energy and commitment to home school, do need the public schools to fill that role.

Exactly the same holds true for early childhood education. If parents have the time energy and commitment to provide a intellectually challenging environment at home, to have regular periods of time to spend with the child reading, talking and engaging in other activities, and to have other children in the neighborhood over on occasion, there is really no need for the child to attend a preschool. But if the parent is not ready or able to devote the time and energy to providing that kind of experience, then a good preschool experience would be enriching and rewarding for the child.

Is Earlier Better?

The idea that earlier is better when it comes to early childhood education is widespread. It stems from the nineteen sixties when many writers hoped that early childhood education might be the way to break the cycle of poverty. It was hoped that

if disadvantaged children could be given a "Head Start" at the preschool level, that they would be on a level playing field with advantaged children when they entered school.

At that time the promise of early childhood education seemed unlimited. Jerome Bruner wrote that:

"We begin with the hypothesis that any subject can be taught effectively in some intellectually honest way to any child at any stage of development." (25, p.22.)

It was hoped that if children were taught the basics of reading writing and arithmetic during the early years, then this would not only insure them a Head Start but also insure them against failure later.

The idea that earlier is better was reinforced by the writing of Benjamin Bloom who contended that:

"General intelligence appears to develop as much from conception to age four as it does during the fourteen years from age four to eighteen."(26, pp. 207-208)

Bloom went on to argue that because intelligence grows so rapidly in early childhood, it is the time to engage in serious instruction rather than play. The idea that little children are sponges ready and eager to soak up all the information we pour over them became a widespread and accepted conviction. It encouraged many parents to try and teach their infants and young children everything from reading to violin to karate.

But is early childhood a critical period for learning basic

skills? It is certainly true that infants and young children are eager and avid learners. Yet what young children need to learn is not academic subjects and skills, but rather the basics of the world in which they live. Young children need to learn sights, colors, sounds, shapes, textures and tastes. They need to discover up and down, behind and on top of. They need to discover what floats and what sinks, to encounter the many forms, sounds and smells of different animals and plants.

Yes, infants and young children are avid learners, but what they need to learn is not academics but rather the fundamental knowledge about their world. And that is what all of the workers in early childhood education from Pestalozzi to Piaget have emphasized. The child needs to acquire a conception of the immediate fundamental world before he or she begins to learn the derived, symbolic world of formal instruction.

RESEARCHABLE ISSUES

While the pedagogical issues are often a matter of philosophy as well as evidence, some can be put to test. Of the many possible issues that can be tested and how this might be done only two are presented below as examples of the kind of research that needs to be done

Does Early Childhood Education Make a Difference.

Perhaps the most abiding research issue in early childhood education is "Does it make a difference?" Do children who do not

attend nursery school do better, worse or the same than children who do not? A great deal of research has been done on this question but the answer remains ambiguous. And that is necessarily the case. Whatever effect early childhood education has upon young children it may well be obscured by the different school experiences they have later. In effect there is no way to control for later learning experiences that will interact with the early learning experiences.

One could argue, however, that the question, "Does it make a difference?" is not the right one to ask in any case. We can demonstrate that college education makes a difference by comparing the incomes of those who go to college with those who do not. And, since college is the last educational way station before entering the work force, no other educational experiences intervene, to complicate its effects. But we do not ask whether an elementary school education makes a difference because most children have an elementary school education and a constant cannot be a cause of change or difference. As more than eighty five percent of children in our country now have some early childhood education experience, whether or not it makes a difference is largely irrelevant.

Does the Quality of Early Childhood Education Make a Difference?

On the other hand, it is not irrelevant to ask whether the quality of early childhood education makes a difference. For

example, it is well established that in many school systems, the youngest children in the kindergarten class do more poorly both short and long term than do children who are the youngest in the class.(27) And this is true regardless of the intelligence of the children involved. Clearly something significant is going on to these younger children and we need to learn what it is.

One hypothesis is that the curriculum is always geared to the oldest children so that the youngest children are in effect confronted with materials that are developmentally inappropriate. Piaget's theory suggests that young children believe that adults are all knowing and all powerful and that when they ask a child to learn something and the child cannot, the child is likely to blame himself or herself and to see themselves as dumb. This in turn becomes a self fulfilling prophecy so that the child sees each subsequent success as an "accident" and each subsequent failure as "my due."

Another hypothesis derives from reinforcement theory. According to Skinnerian theory, for example, the youngest children would be likely to make more mistakes and to get many fewer positive rewards--both verbal and non-verbal--than the older children. Young children's learning performance would thus be much less reinforced than is true for the older children and this might lead the younger children to engage in fewer learning activities. This in turn would again cause teachers to be less rewarding, more punishing, in a regressive cycle for the child.

Both of these hypotheses could be easily tested. For example, to test the Piaget hypothesis one would assess all children in the kindergarten class on Piagetian conservation tasks. The youngest children would be divided into two groups--those who do well on the Piagetian tasks and those who do not. At the end of the year all children would be assessed on both measures of achievement and on measures of self esteem. If the Piaget hypothesis is correct, the young children who scored high on the conservation tasks would do better on the achievement and self esteem tasks then would the young children who did not have conservation. Although the Piaget tasks are related to intelligence they are not identical and the results could not be attributed to intelligence--in fact intelligence has already been shown not to account for the so-called "age effect."

To test the Skinnerian hypotheses would require an observer to be in the classroom to record the teachers verbal and non-verbal behavior towards the youngest and oldest children in the class. Again the children would be assessed at both the beginning and at the end of the year with respect to both academic achievement and self esteem. One could then compare the youngest and oldest both with respect to teacher rewards and punishments and academic achievement and self esteem. If the Skinnerian hypothesis is correct, teachers would respond differentially to the youngest children and this would be reflected in their

achievement and self esteem scores.

does Work with Manipulatives Improve Math Comprehension?

Although there are many other issues that could be researched, one that is of particular importance in this day and age has to do with early math instruction. From a developmental (Piagetian) position a child does not really grasp arithmetic until he or she has attained the concept of a unit-something which is both like and different from all other members of the set. To attain this unit concept, most children need to engage in a variety of classification and seriation (ordering elements as to size). The hypothesis to be tested is that children who engage in these manipulative activities during the kindergarten year will do better in mathematics by the end of first grade than children who have engaged in work book activities during kindergarten. A third class in which both manipulatives and workbooks and a fourth in which neither work books nor manipulatives were employed would need to be used as controls. Pretesting on a simple vocabulary test (highly correlated with IQ) could be used to ensure that the children in all four groups were roughly comparable in mental ability at the beginning of the study.

These are but a couple of the important research investigations that need to be undertaken to better our understanding of early childhood education.

POLICY ISSUES

There are a number of policy issues of utmost importance to early childhood education as it attains national prominence and is bound by federal and local legislation. Only a few of these policy issues can be touched upon here.

Certainly one of the most important policy issues regarding early childhood education concerns establishing standards for: the training of early childhood educators, educational practice including child to teacher ratios, for curriculum goals and for teacher certification. Other policy issues concern testing, programs for four-year-olds, and full day kindergartens.

Standards and Goals

Goals for Teacher Training

Young children are different than older children and adults both in their modes of thinking and learning but also in there social and emotional maturity. Accordingly, teachers who have been trained to work with older children and who may have experience teaching at the primary or the secondary level are not automatically prepared to teach young children. In setting standards for certification of early childhood educators, a basic proviso must be training in early childhood education and an internship in an early childhood educational setting. At the same time, different levels of training should be recognized and steps towards high level of competence made explicit. The current Child Development Associate (CDA) program trains entry level teachers

while many colleges and universities grant BA degrees in Early Childhood Education. Both levels of training need to be recognized and movement from one level to another should be encouraged and facilitated.

Goals for Practice Standards

The National Association for the Education of Young Children has published a brochure describing Developmentally Appropriate Practice for Early Childhood educators.(11) These standards were written and gone over by the national leaders in early childhood education. That they were able to arrive at a consensus is a minor miracle in of itself. I strongly believe that any policy that sets standards of practice for early childhood education practice should start from this document as the best written material available to describe what goes on in a sound early childhood educational setting.

Goals for Teacher Child Ratios

In my recent work on early education (2) I suggested a rule of three with regard to the ratio of children to adults in early childhood settings. Basically the ratio is one adult to the number of children that is equal to three times the mean age of the children in the group. If the mean age is one, for example, the ratio of adults to children should be one to three. If the mean age of the group is three, then the ratio would be one adult to nine children and so on. Obviously this is an ideal ratio and

not one that should be a policy recommendation. Nonetheless, low teacher to child ratios should be the goal of public policy. Although such policy should recognize that economic and manpower realities may not always allow us to fully realize these goals, and that larger ratios may have to be accepted, a clear statement should also be made as to the desirability of smaller teacher to child ratios.

Curriculum Goals

The real problem in setting national or local curriculum goals is to formulate them in such a way that they are general enough to allow for the diversity of cultural, ethnic, racial and economic differences in our communities while specific enough to provide concrete guidance. It seems to me this can be done if we limit the number of goals and are flexible as to the points in time when they are to be realized. It is certainly a reasonable goal, for example, to have all children reading by the end of second grade, if we mean by reading the ability to recognize and define a number of printed words. But I would not set a fixed number of words or definitions as a criterion. Nor should children who do not meet the criterion be shunted off. They may be among the few who need still another or two to move into reading.

Similarly in setting goals for mathematics, a general goal would be for all children to understand the basic arithmetic operations by the end of grade two. But this goal should be flexible enough to include children who can only add low numbers

like two and two as well as children who can add whole strings of numbers. Here again, children who do not meet the criterion should be allowed to continue to work with manipulatives until they give signs that they are ready to move into symbolic math.

Although, it is not generally done, I would also like to have national goals for art, music and physical development. I believe all young children should have the opportunity to draw, paint, write stories or poems and that this should be seen as an integral part of their education. Music too, whether listening or learning to play simple instruments like a recorder, should be part of the young child's basic accomplishments. In addition, all children should know basic exercises and calisthenics and these should be engaged in regularly as part of their early childhood education.

Testing in Early Childhood Education.

Perhaps one of the "hottest" policy issues revolves around the testing of such children. At least three types of testing are currently being used and/or advocated. The first are ability tests such as the Binet and WPPSI that are designed to measure the child's brightness relative to other children. The use of such tests with young children is being advocated by those who would, for example, like to identify gifted children at an earlier age in order to provide enrichment programs for identified youngsters.

The second group of tests are designed to screen young children for a variety of deficiencies. Tests of vision and hearing, for example, are screening tests. Other screening tests are designed to detect learning difficulties such as dyslexia. Still other tests are designed to assess the child's developmental level such as the Gesell. Screening tests are most often used to implement early intervention for children with special needs.

A third group of tests are designed to measure achievement in particular domains such as reading and math. Achievement tests are often used to assess a young child's progress with the curriculum.

Tests are useful instruments if they are soundly constructed, and carefully standardized and if they are administered, scored and interpreted by trained and experienced examiners. Unfortunately, too many tests --particularly screening tests-- are not well constructed and standardized. And too many achievement tests, though well constructed, may be poorly administered, carelessly scored and wrongly interpreted. Responsible testing can be invaluable along with other information in making informed educational planning decisions. Irresponsible testing, on the other hand, may place a wrong label on the child that he or she may have to bear for the rest of his or her academic life. Such labels damage a child's sense of self esteem and self worth.

Perhaps the most abuse of testing in early childhood occurs

in the use of tests to screen children for kindergarten entrance. Too often these tests are poorly constructed and improperly administered. More importantly young children are not only notoriously poor test takers, they are also developing rapidly so that the test results may not accurately predict where that child will be developmentally a week or a month hence.

Policies which require the passing of a test for kindergarten entrance are thus likely to do more harm than good. A much healthier approach is to have kindergarten and first grade programs that are sufficiently flexible to accept children at different developmental levels. Such programs would not require any testing and would be able to assimilate children who vary in their readiness for instruction. Such programs allow children to catch up to their peers without the stigma and risks of labels.

PRograms for Four-Year-Olds in the Public Schools.

Should the public schools provide programs for four-year-olds? It depends. Certainly, there is a tremendous need for quality early childhood programs. And schools are safe building and teachers are trained and certified. In many ways, the public schools provide a place where quality early childhood education can take place. The danger, however, is that because four-year-olds are housed in a school building, that parents and educators will take it for granted that they should, therefore, go to school--be taught a half size smaller first grade curriculum.

On the other hand, if the program for four-year-olds is developmentally appropriate, then such programs should have a place in our public schools. Such programs should not take the place of nursery schools, daycare centers and family daycare, but should be another option for parents seeking the best possible programs for their young children.

Full Day KIndergartens.

Many school systems are trying to decide whether or not to institute full day kindergarten programs. In many communities such programs are already in place and in operation. Unfortunately, the full day kindergarten issue has become confounded with the tension that is mounting between two parent groups--those who choose to stay home and rear their children and those who do no. Often those families with one parent in the home want a half day kindergarten whereas those families with two parents working want a full day program. Each group sees the other as not sufficiently concerned with the needs of children.

The truth is that both sets of parents want what is best for their children. Both the half-day and the full-day programs can be positive experiences for children if the program itself speaks to the developmental needs of children. Young children expend most of the energy they have for intellectual endeavors in the morning. Hence they are usually not up to active learning activities in the afternoon. Accordingly, if the full-day-kindergarten

provides children an opportunity to nap, to listen to music or stories or play quiet games, it will not unduly tax the child. The real issue is the quality of the program, not its length.

SUMMARY AND CONCLUSION

Early childhood education is a relatively modern innovation. It had its origins in the industrial revolution, the humanitarian thrust of the theory of evolution and the emergence of socialist societies and communal childrearing. In the contemporary United States early childhood education has grown to accommodate the needs of two and single parent working families as well as to provide a Head Start for disadvantaged children.

Major contributors to the educational philosophy of early childhood education were the early educators, Pestalozzi, Froebel and Montessori. In addition the philosopher John Dewey, psychoanalysts Freud and Erikson and the developmentalist, Jean Piaget have contributed to our knowledge of how children grow and develop and what constitutes effective early childhood education.

There are four basic principles of developmental early childhood education. The first is that the learner is an individual with growing mental abilities. A second principle is that learning is a creative process and necessarily involves both the subject and the object or material to be learned. The third principle is that knowledge is always a construction and always contains something of the subject as well as of the material to be known. Knowledge can be different without being right or

wrong. Finally, the aim of developmental early childhood education is to produce active, self motivated learners and critical thinkers.

There are many unresolved pedagogical issues surrounding early childhood education. Among these are the question of whether early childhood education can harm the child, whether it can improve the child's IQ and whether it can give the child an academic Head Start. A couple of representative research issues include the question of whether the quality of early childhood education makes a difference and whether the use of manipulatives can improve math performance.

The rapid growth of early childhood education has also created a number of public policy issues. Among these are the goals for early childhood teacher training, for educational practice, for teacher child ratios and for curriculum. Other issues include the use of tests for ability, screening and achievement with young children, programs for four year olds in the public schools and the educational value of full day kindergartens.

In the United States early childhood education is coming into its own as a part of the educational system. It is increasingly recognized that early childhood is not a "size smaller" first grade. Our knowledge that young children learn differently than older children and adults and require a educational program suited to their unique modes of thinking and learning is finally

being accepted and translated into practice. To further this progress we need to pass and implement policies that promote practices that will enable all children to leave the early grades feeling good about themselves, about learning and about schooling.

Early childhood education is not a preparation for later education, but an educational program in its own right. As we come to recognize and accept this truth, children at all age levels will benefit.

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